Madison, Wisconsin
October 31, 1927

RESULTS OF THE BURGESS SHORT WAVE AIRPLANE RADIO TESTS.

The Burgess Radio Laboratory short wave airplane radio transmitter and receiver established two way telegraphic communication while flying over Madison, Wisconsin Saturday afternoon, October 22. Communication was established with fourteen different radio amateur stations in the states of Wisconsin, Michigan, Ohio, Pennsylvania, Minnesota and Iowa while two other amateurs, one in Illinois and the other in New York heard signals from the airplane.

Outstanding in the tests was the communication by voice from Lieutenant H. P. Roberts, of the Signal Corps at Wright Field, Dayton, Ohio. Roberts first communicated with the plane while using his telegraph transmitter and then shifted over to his radio telephone and talked to Phil Zurian, the plane operator for about ten minutes. Zurian reported splendid reception of Roberts' voice.

The airplane transmitter, using two receiving type vacuum tubes employs the Hoffman oscillator and power amplifier with a trailing antenna wire eighty-five feet long. The power for the transmitter is furnished by dry cell B batteries. The power represented is approximately ten watts. The receiver complete with batteries weighs less than nine pounds, the complete outfit weighing but sixty-five pounds.

Taking off from Madison Airport at 3:25 P. M., the first station to communicate with the plane was 9DTK, operated by Fred Catel, Milwaukee. From then until the plane landed at five o'clock it was just one amateur station after another that the plane worked. The plane flew at altitudes of 3,000 to 5,000 feet and while there should have been considerable fading of the 79 meter wavelength, only two or three amateurs reported it. In practically every case, signals were of excellent strength.

Two amateurs at Oakmont, Pennsylvania were awarded prizes of 450 volts of Burgess B batteries for their good work. 8CEO, operated by A. W. McAuly also wins a flashlight for submitting a complete report of the transmission from the plane. 8ARC, W. J. Reagon, also of Oakmont wins 450 volts of batteries. To Leroy Davie, Deposit, New York, goes the prize of 180 volts of batteries for having copied the plane signals over the greatest distance, it being about 725 miles.

Zurian heard two amateurs in the second district, 2AIZ, R. Weir, Locust Valley, New York, and 2BBL, R. E. Alexander, Caldwell, New Jersey.

With his report of the tests, A. W. McAuly said, "I consider this to be the most important radio test of the year in amateur radio circles. Many planes have taken off for long and dangerous trips with either no radio set at all or with a set, the range of which, would render it of little value in emergencies. With a set like that used by 9XH today, arranged to use the 40 and 20 meter bands as well as the 80 meter band, and working with amateurs, it would be possible, by changing from one wave to another as the distance made it necessary to work continuously no matter where the plane might go. With such a set, a good operator such as manned 9XH today and the policy of working with amateurs, airplanes need not be without communication at any time."

Arrangements are being made for additional airplane radio tests on 20 and 40 meters, the exact dates depending upon ground tests and weather conditions. We believe it is within the realm of possibility that when working on 20 meters communication may be established with amateurs on the west coast in daylight. Also, that some further information on the Taylor-Hulburt phenomena of skip distance may be obtained, since the airplane set is free from the ground and free radiation may be considerably greater than at the ground.

Burgess Battery Company,
By F. H. Schnell.